DCU Ollscoil Chathair Bhaile Átha Cliath Dublin City University

Applications are invited from suitably qualified candidates for the following position:

Research Centre	DCU Centre for Decarbonisation, Sustainability and Innovation
Post title	Postdoctoral Researcher in Thermal Test Vehicle (TTV) Design and Implementation
Level on Framework	Level 1
Post duration	27 Month Fixed Term Contract

Dublin City University

Dublin City University is a leading innovative European University with a mission to 'transform lives and societies'. DCU ranks as one of the world's Top 350 Universities, *Times Higher Education*, and is proud to be Ireland's No. 1 Young University. The University is known for the 'transformative student experience' it offers, and is also recognised for its impact in addressing global challenges in collaboration with national and international stakeholders.

Research Career Framework

As part of this role the researcher will be required to participate in the DCU Research Career Framework. This framework is designed to provide significant professional development opportunities to Researchers and offer the best opportunities in terms of a wider career path.

Background

The School of Mechanical and Manufacturing Engineering is a thriving and ambitious school, with a strong reputation for attractive Engineering programmes and impactful research. Our programmes are delivered through state-of-the-art practical facilities in our Stokes Building on campus and over the last 10 years, our student numbers on our 4 year BEng and 5 year Integrated MEng programmes in Mechanical & Manufacturing, Biomedical, Mechanical & Sustainability, and Mechatronic (jointly with the School of Electronic Engineering) have more than doubled.

These programmes reflect the strong research focus within the School, which centre around Advanced Manufacturing and Design, Biomedical and Sustainability. We have an excellent track record in research funding, much of which is focused on delivering useful and impactful solutions for both Industry and Society, in addition to academic publication. The strength of this research can be seen in the I-Form and Biodesign Europe centres, which are led by members of the School of Mechanical and Manufacturing Engineering.

The ethos in the School is one of open collaboration between staff and an open-door approach to interaction with students of all levels. We openly encourage students to undertake extra-curricular activities to develop their engineering skills and are currently supporting DCU Solar, as they build an entry for next year's challenge to travel from Belgium to Italy under solar power.

Together with the School of Electronic Engineering and the School of Computing, we form the Faculty of Engineering and Computing, which is a leader in the University in research.

Role Profile

The School of Mechanical and Manufacturing Engineering invites applications for a Postdoctoral Researcher as part of a new collaborative project between DCU, HT Materials Science Ltd (HTMS) and Exergyn Ltd. This project, DLCool, has been awarded under the seventh round of the Disruptive Technologies Innovation Fund (DTIF7). The main goal of the DLCool project is to accelerate the development and deployment of next generation heat transfer fluids for use in solid-state heat pumps, direct to chip cooling and other applications, such as EVs and battery storage systems.

The successful individual will lead the design, development, commissioning, and validation of a fully instrumented and monitored Thermal Test Vehicle (TTV), which will serve as the experimental platform for evaluating next-generation heat-transfer fluids across applications such as direct-to-chip cooling, solid-state heat pump loops and EV cooling loops.

The role will involve defining the TTV architecture, designing and integrating advanced instrumentation, developing automated control and data acquisition systems, engineering a closed-loop system suitable for nanofluids, executing systematic experimental campaigns to generate validated performance datasets for candidate fluids, working collaboratively across the partnership and producing fully documented test procedures, calibration records, uncertainty analyses, and reports required for DTIF.

Principal Duties and Responsibilities

The duties and responsibilities of the position include, but are not restricted to, the following:

- Conduct and deliver a programme of research to the highest standard under the supervision and direction of the PI.
- Support the PI and the industry partners on project planning to ensure all milestones and deliverables are met, particularly regarding the development and deployment of the TTV test system.
- Collaborate with and support the work of other project researchers within a multi-disciplinary team.
- Supervise and assist undergraduate students working in this area with their capstone projects.
- Provide weekly updates and a monthly written report on progress; produce a full report and presentation at the end of the contract.
- Support the team's ongoing communication and dissemination efforts including social media and project website.
- Liaise with both internal and external stakeholders including industry and academic partners/collaborators.
- Engage in appropriate training and development opportunities as required by the Principal Investigator, the School or Research Centre, or the University.
- Carry out administrative work associated with the programme of research as necessary.

Qualifications and Experience

Essential

- Applicants should have a PhD in Mechanical/Mechatronic Engineering with a specific focus on fluids system design, measurement principles, instrumentation, automation and control.
- Proven ability to design and implement fluids-based test systems in line with relevant industry standards.
- Demonstrated knowledge and application of measurement principles and instrumentation for fluid mechanics and/or heat transfer systems.
- Demonstrated experience in system control and automation for fluid mechanics and/or heat transfer systems.
- Strong work ethic, creative thinking and dedication to problem solving.
- Excellent interpersonal skills, verbal, and written communication skills.
- Good organisational and time management skills with an ability to prioritise and work independently.
- Proven ability to work in a team and innovate in a multi-stakeholder environment.

Desirable

- Experience in thermal–fluid simulation (COMSOL, ANSYS), CAD design (SolidWorks, Creo), or prior work on high-heat-flux or electronics cooling test systems is highly advantageous.
- Experience working as part of an industry-academic consortium.

Candidates will be assessed on the following competencies:

Discipline knowledge and Research skills – Demonstrates knowledge of a research discipline and the ability to conduct a specific programme of research within that discipline

Understanding the Research Environment – Demonstrates an awareness of the research environment (for example funding bodies) and the ability to contribute to grant applications

Communicating Research – Demonstrates the ability to communicate their research with their peers and the wider research community (for example presenting at conferences and publishing research in relevant journals) and the potential to teach and tutor students

Managing & Leadership skills - Demonstrates the potential to manage a research project including the supervision of undergraduate students

Essential Training

The postholder will be required to undertake the following essential compliance training:

- Orientation
- Health & Safety
- Data Protection (GDPR)
- Cyber Security Awareness
- AI Literacy

Other training may need to be undertaken when required.

Salary Scale:
IUA Postdoctoral Researcher Salary Scale – €46,305 (Point 1) – €50,168 (Point 4)

Appointment will be commensurate with qualifications and experience and in line with current Government pay policy.

Closing date: Wednesday, 20th May 2026

Remote Working Policy
DCU operates a Remote Working Policy. Employees may be approved for up to 2 days of remote working per week (or an appropriate pro-rata amount for those part time). Any remote working arrangement will be reflective of the predominant on-campus working environment and the core University value of 'Student Focused'.
Employees will be based on campus for the majority of their working week to ensure a sustained on campus engagement and experience. The terms of the remote working policy will apply.

For more information on the School of Mechanical and Manufacturing Engineering, please visit: https://www.dcu.ie/mechanicalengineering

Informal Enquiries in relation to this role should be directed to:
Dr Lorna Fitzsimons, Assistant Professor, School of Mechanical and Manufacturing Engineering, Dublin City University.
Phone: + 353 (0)1 7007716
Email: lorna.fitzsimons@dcu.ie

Please do not send applications to this email address, instead apply as described below.

Application Procedure:
Please submit your application through the online system. In order to be considered for the role to which you are applying for, you must upload:
1) Curriculum Vitae
2) Cover Letter
3) Completed application form (blank forms can be downloaded from the bottom of the Vacancy).

Please note, if all items are not uploaded, the application will be deemed incomplete, and will not be processed.

Dublin City University is an equal opportunities employer.
In line with the Employment Equality Acts 1998 – 2015, the University is committed to equality of treatment for all those who engage with its recruitment, selection and appointment processes.
The University's Athena SWAN Silver Award signifies the University's commitment to promoting gender equality and addressing any gender pay gaps. Information on a range of

university policies aimed at creating a supportive and flexible work environment are available in the [DCU Policy Starter Packs]